

Having completely and fully described this invention in the specification, examples and drawings, what is claimed is:

- 5 1. An abuse-resistant, cast acoustical ceiling tile having a core made from a starch gel and mineral wool fiber composition, wherein the front surface of the tile is coated with aggregate particles having an average particle mean diameter of at least about 1,000 microns.
2. The ceiling tile of claim 1 wherein the aggregate particles are selected from the group consisting of calcium carbonate, crushed
10 marble, sand, clay, perlite, vermiculite, crushed stone and glass.
3. The ceiling tile of claim 2 wherein the aggregate particles are calcium carbonate.
4. The ceiling tile of claim 3 wherein the aggregate particles have an average particle mean diameter ranging from about 1,000 microns
15 to about 3,000 microns.
5. The ceiling tile of claim 3 wherein the aggregate particles have an average particle mean diameter ranging from about 1,400 microns to about 2,500 microns.
6. The ceiling tile of claim 1 which has a noise reduction
20 coefficient (NRC) value of at least about 0.50.
7. The ceiling tile of claim 2 which has a noise reduction coefficient (NRC) value of at least about 0.50.
8. The ceiling tile of claim 3 which has a noise reduction coefficient (NRC) value of at least about 0.50.
- 25 9. The ceiling tile of claim 4 which has a noise reduction coefficient (NRC) value of at least about 0.50.
10. A process for making an abuse-resistant, cast ceiling tile wherein a wet mineral fiber/starch gel pulp is fed to a paper, foil or paper backed foil lined tray from a headbox;

the pulp-filled tray is passed under a hopper which contains aggregate particles;

the aggregate particles are fed from the hopper onto the surface of the wet pulp in the tray so as to provide a uniform layer of aggregate particles across the surface of the wet pulp;

the wet pulp covered by a layer of aggregate particles is passed under a means to press the particles into the pulp; and

then the tray containing the aggregate particle covered wet pulp is passed into a drier.

10 11. The process of claim 10 wherein the aggregate particles are fed from the hopper onto the surface of the wet pulp at a rate ranging from about 0.1 to about 1 pound per square foot of surface.

12. The process of claim 10 wherein the aggregate particles are fed from the hopper onto the surface of the wet pulp at a rate ranging from about 0.2 to about 0.5 pound per square foot of surface.

13. The process of claim 10 wherein the aggregate particles are calcium carbonate.

14. The process of claim 11 wherein the aggregate particles are calcium carbonate.